AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-9. (Cancelled)

10. (New) A magnetoresistive layer system, in an environment of a magnetoresistive layer stack that works substantially on the basis of one of a GMR effect and an AMR effect, the system comprising:

a layer array for generating a magnetic field which acts upon the magnetoresistive layer stack, the layer array including at least one hard magnetic layer and at least one soft magnetic layer.

11. (New) The magnetoresistive layer system according to claim 10, wherein the hard magnetic layer and the soft magnetic layer are ferromagnetically exchange coupled.

12. (New) The magnetoresistive layer system according to claim 10, wherein the layer array is situated at least one of (a) on, (b) below, and (c) next to the layer stack.

13. (New) The magnetoresistive layer system according to claim 10, wherein the layer array has a plurality of soft magnetic layers and a plurality of hard magnetic layers, which are combined into layer pairs having a hard magnetic layer and an adjacent soft magnetic layer.

14. (New) The magnetoresistive layer system according to claim 10, wherein the soft magnetic layer is composed of a CoFe alloy, Co, Fe, Ni, an FeNi alloy, and magnetic alloys which contain these materials.

15. (New) The magnetoresistive layer system according to claim 10, wherein the soft magnetic layer has a thickness between 1 nm and 50 nm.

16. (New) The magnetoresistive layer system according to claim 15, wherein the thickness is between 1 nm and 10nm.

17. (New) The magnetoresistive layer system according to claim 10, wherein the hard magnetic layer is composed of one of a CoCrPt alloy, a CoSm alloy, a CoCr alloy, a CoCrTa alloy, a CoPt alloy, and an FePt alloy.

18. (New) The magnetoresistive layer system according to claim 10, wherein a thickness of the hard magnetic layer is between 20 nm and 100 nm.

19. (New) A sensor element comprising a magnetoresistive layer system, in an environment of a magnetoresistive layer stack that works substantially on the basis of one of a GMR effect and an AMR effect, the magnetoresistive layer system including:

a layer array for generating a magnetic field which acts upon the magnetoresistive layer stack, the layer array including at least one hard magnetic layer and at least one soft magnetic layer.

20. (New) The sensor element according to claim 19, wherein the sensor element is for detecting magnetic fields with respect to at least one of strength and direction.